

**WHAT IS CLAIMED IS:**

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Sub A1  
1. A sanitizing device, comprising:

- a sanitizing component for sanitizing a surface, liquid, gas, and/or associated surrounding environment, wherein the sanitizing component includes an electrochemical, chemical and/or corona cell; and

- a housing for retaining the sanitizing component.

2. The sanitizing device according to claim 1, wherein the sanitizing component comprises a porous matrix substantially impregnated with a material selected from the group consisting essentially of peroxides, superoxides, fluorates, chlorates, bromates, iodates, permanganates, and mixtures thereof.

3. The sanitizing device according to claim 2, wherein the porous matrix comprises at least one material selected from the group consisting essentially of plastics, carbonaceous materials, ceramics, metals, and mixtures thereof.

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4. The sanitizing device according to claim 1, further comprising power means for powering an electrochemical and/or corona cell, wherein the power means consists of AC current and/or DC current.

5. The sanitizing device according to claim 4, wherein the sanitizing component comprises an electrochemical and/or corona cell.

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6. The sanitizing device according to claim 5, wherein the electrochemical cell comprises an anodic component, a cathodic component, and an electrolyte component.

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7. The sanitizing device according to claim 6, wherein the anodic component comprises a material selected from the group consisting essentially of metals, carbonaceous materials, and mixtures thereof.

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8. The sanitizing device according to claim 7, wherein the anodic component comprises a metal selected from the group consisting essentially of titanium, nickel, steel, copper, silver, platinum, palladium, zinc, aluminum, and mixtures and alloys thereof.

9. The sanitizing device according to claim 7, wherein the anodic component comprises a transition metal.

10. The sanitizing device according to claim 6, wherein the cathodic component comprises a material selected from the group consisting essentially of metals, carbonaceous materials, and mixtures thereof.

11. The sanitizing device according to claim 10, wherein the cathodic component comprises a metal selected from the group consisting essentially of titanium, nickel, steel, copper, silver, platinum, palladium, zinc, aluminum, and mixtures and alloys thereof.

12. The sanitizing device according to claim 10, wherein the cathodic component comprises a transition metal.

13. The sanitizing device according to claim 6, wherein the electrolyte component  
5 comprise a solid phase electrolyte.

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14. The sanitizing device according to claim 13, wherein the solid phase electrolyte comprises a porous matrix.

*Sub B5*  
15. The sanitizing device according to claim 5 wherein its electrochemical and/or corona cell allows fluid to pass through their structure.

16. The sanitizing device according to claim 6, wherein the electrolyte component comprises a material selected from the group consisting essentially of a halide containing material, an oxide containing material, an ion exchange membrane, an alkali ion conducting material, a silver or copper ion conducting material, and an ion conducting ceramic material, and mixtures thereof.

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17. The sanitizing device according to claim 1, further comprising a particulate filtering component associated with the housing, wherein the particulate filtering component is capable of substantially trapping particulates thereon.

18. The sanitizing device according to claim 17, wherein the particulate filtering component comprises an activated carbonaceous filter component.

5/ Sub C4 19. The sanitizing device according to claim 1, further comprising fragrance emitting means associated with the housing.

20. The sanitizing device according to claim 19, wherein the fragrance emitting means comprises an electrochemical fragrance dispenser or a porous matrix material impregnated with a fragrance.

10 Sub C5 21. The sanitizing device according to claim 1, further associated with forced air means.

15 22. The sanitizing device according to claim 21, wherein the forced air means comprises a fan or a blower.

20 Sub A 2 23. A multi-layer composite sanitizing device, comprising:

cl. 17 - a particulate filtering component capable of substantially trapping particulates thereon;

20 cl. 1 - a sanitizing component for sanitizing a surface, liquid, gas, and/or associated surrounding environment, wherein the sanitizing component includes an electrochemical, chemical and/or corona cell; and

- a housing for retaining the particulate filtering component and the sanitizing component.

24. The multi-layer composite sanitizing device according to claim 23, wherein the sanitizing component comprises a porous matrix substantially impregnated with a material selected from the group consisting essentially of peroxides, superoxides, fluorates, chlorates, bromates, iodates, permanganates, and mixtures thereof.

25. The multi-layer composite sanitizing device according to claim 24, wherein the porous matrix comprises at least one material selected from the group consisting essentially of plastics, carbonaceous materials, ceramics, metals, and mixtures thereof.

26. The multi-layer composite sanitizing device according to claim 23, further comprising power means for powering an electrochemical and/or corona cell, wherein the power means consists of AC current and/or DC current.

27. The multi-layer composite sanitizing device according to claim 26, wherein the sanitizing component comprises an electrochemical and/or corona cell.

28. The multi-layer composite sanitizing device according to claim 27, wherein the electrochemical cell comprises an anodic component, a cathodic component, and an electrolyte component.

29. The multi-layer composite sanitizing device according to claim 28, wherein the anodic component comprises a material selected from the group consisting essentially of metals, carbonaceous materials, and mixtures thereof.

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30. The multi-layer composite sanitizing device according to claim 29, wherein the anodic component comprises a metal selected from the group consisting essentially of titanium, nickel, steel, copper, silver, platinum, palladium, zinc, aluminum, and mixtures and alloys thereof.

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31. The multi-layer composite sanitizing device according to claim 29, wherein the anodic component comprises a transition metal.

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32. The multi-layer composite sanitizing device according to claim 28, wherein the cathodic component comprises a material selected from the group consisting essentially of metals, carbonaceous materials, and mixtures thereof.

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33. The multi-layer composite sanitizing device according to claim 32, wherein the cathodic component comprises a metal selected from the group consisting essentially of titanium, nickel, steel, copper, silver, platinum, palladium, zinc, aluminum, and mixtures and alloys thereof.

34. The multi-layer composite sanitizing device according to claim 32, wherein the

cathodic component comprises a transition metal.

35. The multi-layer composite sanitizing device according to claim 28, wherein the electrolyte component comprise a solid phase electrolyte.

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36. The multi-layer composite sanitizing device according to claim 35, wherein the solid phase electrolyte comprises at least one of at least a portion of the housing, a porous matrix, and a particulate filtering component.

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37. The multi-layer composite sanitizing device according to claim 28, wherein the electrolyte component comprises a material selected from the group consisting essentially of a halide containing material, an oxide containing material, an ion exchange membrane, an alkali ion conducting material, a silver or copper ion conducting material, an ion conducting ceramic material, and mixtures thereof.

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38. The multi-layer composite sanitizing device according to claim 23, further comprising a particulate filtering component associated with the housing, wherein the particulate filtering component is capable of substantially trapping particulates thereon.

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39. The multi-layer composite sanitizing device according to claim 38, wherein the particulate filtering component comprises an activated carbonaceous filter component.

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40. The multi-layer composite sanitizing device according to claim 23, further

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comprising fragrance emitting means associated with the housing.

41. The multi-layer composite sanitizing device according to claim 40, wherein the fragrance emitting means comprises an electrochemical fragrance dispenser or a porous matrix material impregnated with a fragrance.

42. The multi-layer composite sanitizing device according to claim 23, further associated with forced air means.

43. The multi-layer composite sanitizing device according to claim 42, wherein the forced air means comprises a fan or a blower.

44. A process for sanitizing a liquid, gas or other matter, comprising the steps of:

- providing a sanitizing component such as an electrochemical, chemical, and/or corona cell retained within a housing;
- passing liquid, gas, or other matter over the sanitizing component;
- contacting the sanitizing component with the liquid, gas, or other matter, and
- substantially sanitizing the liquid, gas, or other matter.



45. The process according to claim 44, wherein the liquid, gas or other matter is on a surface.

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